Science

Anatomy and Physiology Honors
Prerequisite: Biology I and Chemistry
Honors anatomy and physiology is an introductory course focusing on the structure of the human body, from the cellular level to the body system level, and the main functions of those structures. Anatomy will include the muscles, bones, nerves, veins, and organs necessary for normal body functions. Physiology is the study of what goes on inside the "anatomy" during everyday life and during physical exertion. In addition, all body systems will be explored - skeletal, muscular, nervous, sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems. The lab units will consist of hands-on animal dissection, and physical activity labs.

AP Biology
Prerequisites: Biology and Chemistry Honors
Students will be expected to develop a conceptual framework for modern biology. In order to develop a conceptual framework, students will be expected to develop an understanding of the major concepts in biology; Science as a Process, Evolution, Energy Transfer, Continuity and Change, Relationships of Structure and Function, Regulation, Interdependence in Nature and Science, Technology, and Society. Descriptive and experimental laboratory exercises will be assigned to promote deeper understanding of the content. These laboratory exercises will focus on higher order thinking, generating ideas, and formulating hypotheses. At the end of the course, students will be expected to take the Advanced Placement Exam. This is a year-long course.

AP Chemistry
Prerequisite: Chemistry Honors
For students who wish to pursue a science-oriented college degree. Further develops chemical topics with an emphasis on environmental chemistry, chemical industries, and physical chemistry. Substantial time will be devoted to laboratory work. Student will be expected to take the AP exam. This is a year-long course.

AP Environmental Science
Prerequisites: Biology Honors and either Chemistry or Physics Honors
The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. Unlike most other introductory-level college science courses, environmental science is offered from a wide variety of departments, including geology, biology, environmental studies, environmental science, chemistry, and geography. In both breadth and level of detail, the content of the course reflects what is found in many introductory college courses in environmental science.

AP Physics
Prerequisite: Physics Honors
AP Physics 1 is the equivalent of a first-semester college course in algebra-based physics. It is designed to enable AP students to develop a deep understanding of the content and to focus on applying their knowledge through inquiry labs. The full course also allows time for inclusion of physics content specified by state standards. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It also introduces electric circuits

Chemistry CP
Prerequisite: Biology I
This course includes a study of the structure and organization of matter, chemical bonding, chemical equilibrium, chemical reactions, and environmental effects.

Chemistry Honors
Prerequisite: Biology I Honors, Algebra II (or concurrent)
This course includes a study of the structure and organization of matter, chemical bonding, chemical equilibrium, chemical reactions, and environmental effects. Students will be expected to complete an Honors Science Portfolio for this course.

Forensic Science CP
Prerequisites: Biology I
Recommended: Chemistry
This course is designed to help students to develop concept mastery, problem-solving skills, and critical/creative thinking. Because the skills presented in forensics are summative in nature with all being necessary to the field, it is highly recommended that you complete every assignment in a timely and thorough manner. Topics include Introduction to Forensics, Biological and Physical Evidence, Impression Evidence, Science of Homicide, Other Crimes, Document Analysis, and Forensic Psychology --Diagnostic Medicine may be incorporated throughout.

Forensic Science Honors
The goal of this course is to foster critical thinking in students as they incorporate prior knowledge from other science disciplines (biology, chemistry, physics, and anatomy), utilize inductive and deductive reasoning skills to make decisions about the relevance of information and the importance of what is collected, and analyze evidence to make decisions concerning criminal ramifications. Moreover, the goal of this course is to promote an understanding for processing crimes and a respect for those involved in that process. Students will be expected to complete an Honors Science Portfolio for this course.

Science, cont'd

Marine Science Honors
Prerequisite: Biology 1
This course is designed to meet the needs of the student who wishes to obtain an in-depth awareness of coastal and marine systems. The course will include a study of the biological, physical, chemical, and geological aspects of oceanography, marine biology, coastal environment, and the interrelationships among the disciplines. Instructional strategies include inquiry-based laboratory and field experiences, speakers, and projects. Because experimentation is the basis of science, laboratory investigations are an integral part of this course. Investigative, hands-on lab activities that address high school inquiry standards and science and engineering practices are central to effective instruction in this course. Students will be expected to complete an Honors Science Portfolio for this course.

Physics CP
Prerequisite: Biology I
This is a laboratory-based course which will include investigations into topics such as electricity, mechanics, light, wave and particle nature of matter, and thermodynamics. These investigations will draw heavily on math skills for data collection, manipulation, and analysis.

Physics Honors
Prerequisite: Biology I, Chemistry Recommended
This course will include an extensive experience in laboratory work to investigate topics such as electricity, mechanics, light, wave and particle nature of matter, and thermodynamics. These investigations will draw heavily upon the students' math skills for data collection, manipulation, and analysis. Students will be expected to complete an Honors Science Portfolio for this course.